Honeywell

Engineering Unit Meter

User Guide

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About This Document

Revision Notes

The following list provides notes concerning all revisions of this document.

Doc ID	Rev ID	Date	Notes
34-ST-25-18	Revision 0	9/01	1st issue of document.
	Revision 1	7/02	Deleted installation information for Model STT 350 and for remote mounting.
	Revision 2	6/05	Deleted CE info
	Revision 3	5/08	Added ATEX Information

Contacts

World Wide Web

The following lists Honeywell's World Wide Web sites that will be of interest to our industrial automation and control customers.

Honeywell Organization	WWW Address (URL/e-mail)
Corporate	http://www.honeywell.com

Telephone

Contact us by telephone at the numbers listed below.

	Organization	Phone Number
United States and Canada	Honeywell Technical Assistance Center	1-800-423-9883 Tech. Support 1-800-525-7439 Service

Symbol definitions

The following table lists those symbols used in this document to denote certain conditions.

Symbol	Definition
	This CAUTION symbol on the equipment refers the user to the Product Manual for additional information. This symbol appears next to required information in the manual.
	This WARNING symbol on the equipment refers the user to the Product Manual for additional information. This symbol appears next to required information in the manual.
	WARNING: risk of electrical shock. This symbol warns the user of a potential shock hazard where HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 VDC may be accessible.
	ATTENTION, Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices
	Protective Earth (PE) terminal. Provided for connection of the protective earth (green or green/yellow) supply system conductor.
	Functional earth terminal. Used for non-safety purposes such as noise immunity improvement. NOTE: This connection shall be bonded to protective earth at the source of supply in accordance with national local electrical code requirements.
	Earth Ground. Functional earth connection. NOTE: This connection shall be bonded to Protective earth at the source of supply in accordance with national and local electrical code requirements.
	Chassis Ground. Identifies a connection to the chassis or frame of the equipment shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.

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1 —EU Meter Description

Overview

This manual describes how to install, set up and operate the Engineering Unit Meter display (EU Meter) with a given Honeywell Smartline™ Transmitter or an applicable non-Honeywell transmitter.

- It is assumed that you are somewhat familiar with your Honeywell Smartline Transmitter. If you are not familiar with this device, we recommend that you have the instruction manual for your transmitter on hand when you install the EU meter.
- If you have installed and used the EU meter before, just skim the data to find the pertinent installation information.
- If this is the first time you have installed an EU meter, we recommend that you read this manual before you install the EU meter.

Approvals

For information concerning ATEX Directive 94/6/EC, Hazardous Location Wiring, and Hazardous Locations Reference, refer to RMA 3000 Remote Meter Assemblies User Manual #34-ST-25-19.

Function and Design

The Engineering Unit Meter is an LCD indicator that provides a digital display of a transmitter's output PV when connected in a 4 to 20 mA analog loop. The meter is compatible with Honeywell Smartline Transmitters operating in analog mode and with other non-Honeywell transmitters operating in a 4 to 20 mA current loop. Figure 1 shows a typical meter output display. The display ranges (low range value and high range value) and the engineering units are set locally and are independent of each other.

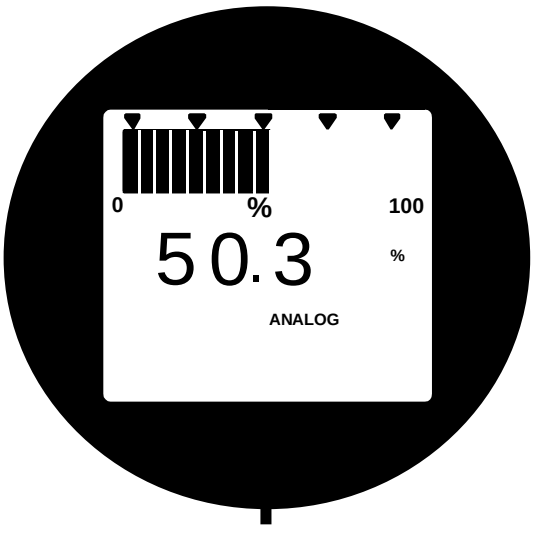


Figure 1 Typical Engineering Unit Meter Display

Meter Description

The EU meter is designed to provide a simple indication of a transmitter's output value. A multi-segmented LCD display is encased in a circular black plastic frame for local installation to the transmitter. A printed circuit assembly (PWA) is mounted behind the display and contains the electronics and wire connections for the meter. The EU meter is powered from the transmitter loop current. A momentary contact toggle switch is mounted on the PWA and is used for setting up and verifying the display indication.

Figure 2 shows the meter with all its indicators and display segments visible for reference, and Table 1 gives a brief description of each indication.

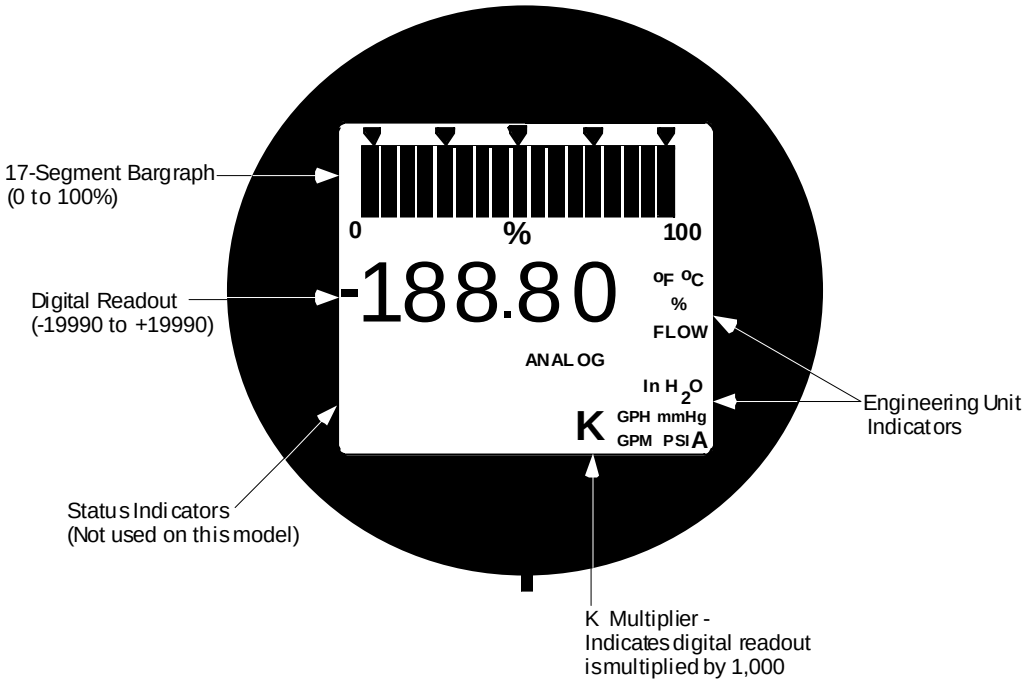


Figure 2 Engineering Unit Display with All Indicators Lit

Display Features

The display provides a visual indication of transmitter output with the following attributes:

- A ***17-Segment Horizontal Bargraph*** gives an indication of the transmitter's PV output from 0 to 100% that can be read from up to 30 feet away.
- A ***Digital Readout*** gives a precise indication of transmitter output from -19990 to +19990 in the selected engineering unit. Note that indications in the range of ±199.9 will include a decimal point. Also, readings above 19990 are automatically converted by a 1000 display multiplier (K) so that a value of 20000 would be displayed as 20.0 K.
- ***Status Indicators*** are part of the display, but appear only in self-diagnostics testing when power is applied. The status indicators are not displayed in normal operation.
- ***Engineering Unit Indicators*** show what the digital readout represents. These nine units can be selected on the LCD:

–	°F	–	GPH
–	°C	–	GPM
–	%	–	mmHg
–	in H_2O	–	PSI
		–	PSIA

- Additional engineering units can be selected through the use of stick-on labels that are applied to the display area of the meter face. The labels are supplied on a sheet (part number 30756918-001) included with the meter. See Table 1 for a listing of the engineering units available on the label sheet.

ATTENTION

Please note that the EU meter does not automatically compensate for changes made to setup parameters in either the transmitter or in the EU meter itself.

If the Engineering Units selection is changed after setting up range values (LRV and URV), it will be necessary to manually make corresponding changes to the range values.

For example, if the meter is set up for °C with lower range values of 0° and 100°, then changing the engineering unit selection to °F will require changing the LRV to 32° and the URV to 212°. Similarly, if the transmitter range were extended from 0 °C –100 °C to 0 °C – 150 °C, the LRV and URV in the EU meter would require corresponding changes.

Table 1 Engineering Unit Display Indicator Description

Display Indicator (See Figure 2 for illustration)	**What It Means When Lit**
17-Segment Bargraph	Gives a graphic indication of the transmitter's PV output from 0 to 100%.
Digital Readout	Gives an indication of the transmitter's PV output current. The display range of ±19,990,000 is automatically ranged to provide the best precision possible within the limits of the display.
%	Digital readout represents output in percent of span. This is the default engineering unit selection.
FLOW	Status indicator is not used on this model.
OUTPUT MODE	Status indicator is not used on this model.
BAD XMTR STATUS	Status indicator is not used on this model.
FAULT	Status indicator is not used on this model.
LAST KNOWN VALUE	Status indicator is not used on this model.
ANALOG	Indicates that the meter is measuring analog current. (Display segment is always on.)
K	Multiplies digital reading by 1,000. Turns on automatically when reading exceeds 19990.
A	Indicates an absolute pressure value. Indicator is visible with PSI engineering unit.
Engineering Unit Indicators	
°F ***°C*** ***%*** ***inH2O*** ***GPH*** ***GPM*** ***mmHg*** ***PSI*** ***PSI A*** ***blank***	Degrees Fahrenheit Degrees Celsius Percent of span Inches of Water Gallons per hour Gallons per minute Millimeters of Mercury Pounds per Square Inch Pounds per Square Inch Absolute no engineering units selected, or custom engineering units. (Use stick-on labels described below.)
Additional Engineering Units *(stick-on label not shown)* These selectable engineering units can be indicated and are available as a stick-on label from Honeywell drawing number 30756918-001.	Kpa = Kilopascals Mpa = Megapascals mbar = Millibar bar = Bar g/cm2 = Grams per Square Centimeter Kg/cm2 = Kilograms per Square Centimeter mmH2O = Millimeters of Water inHg = Inches of Mercury mH2O = Meters of Water

Operating Conditions and Specifications

Before installing a transmitter equipped with a EU meter or installing the EU meter in an existing transmitter, please note the specifications and operating limits of the meter in Table 2.

Table 2 EU Meter Specifications

Operating Conditions			
Parameter		**Rated**	**Extreme, Transportation and Storage (See below)**
Ambient Temperature	*°F* *°C*	–40 to 185 –40 to 85	–58 to 194 –50 to 90
Relative Humidity	*%RH*	10 to 90, non-condensing	0 to 100
Design Characteristics			
Accuracy		±0.5% of full range	
Display Resolution	*Bargraph*	±3% of reading	Shown as:
	Digital Readout	±0.05 for ±199.9 reading range, ±0.5 for ±1999 reading range, ±5 for ±19990 reading range, ±50 for ±199900 reading range, ±500 for ±1999000 reading range, ±5000 for ±19990000 reading range.	199.9 1999 19.90 K 199.9 K 1999 K 19990 K
Minimum Loop Operating Current		3.6 mA	
Maximum Voltage Drop		2.3 V	

Meter Display at High and Low Temperature Extremes

The rated temperature limits for the meter are listed above and are correct in that no damage to the meter will occur over these temperatures. However, the readability of the LCD is affected if taken to these temperature extremes:

- At higher temperatures, the LCD will turn black at temperatures between 80 to 90 °C (176 and 194 °F), rendering the display unreadable. This effect is only temporary, and normally occurs at 90 °C (194 °F).
- At low temperatures, the update rate of the display is lengthened to 1.5 seconds due to the slower response time of the display. At -20° C (-4 °F) the display becomes unreadable due to slow response of the LCD. This is also only temporary and normal readability will return when temperature rises above -20 °C (-4 °F).

2 —EU Meter Installation

Overview

This section covers the physical installation of the EU meter integrally and remotely with compatible Honeywell field devices, as well as remote installation with other non-Honeywell transmitters.

The EU meter is compatible with the following Honeywell Smartline Transmitters operating in analog mode:

- STT 3000 Smart Temperature Transmitters (STT350 and STT250 - models 25M, 25D in analog mode, 25H* and 25T)

  * Meter is compatible with STT25H operating in point to point loop.

For more information

Refer to RMA 3000 Remote Meter Assemblies User Manual (Honeywell document number 34-ST-25-19) for details on installation, wiring, etc.

Getting Started

Tools Required

Screwdriver (medium blade)

Parts Required

If either the display is to be installed integrally with the transmitter, or if the transmitter is installed within an explosion-proof enclosure equipped with a meter cover, ensure that the transmitter has a “windowed” meter cap. (A meter end cap and meter cover used with the meter provides space for the meter, and has a glass window to allow for the installation and viewing of the display.)

Preparation

- Remove power from the transmitter
- Remove the meter end cap or meter cover

Integral Mounting with STT 3000 Temperature Transmitters

The EU meter can be installed integrally with Honeywell STT 3000 Temperature Transmitters. The procedure in Table 3 shows you how to install the EU meter with any of three STT 3000 transmitters mounted in an explosion-proof housing.

Refer to Figure 3 for wiring connections to the Model 250 transmitter.

ATTENTION

If the meter is already installed with the transmitter, remove it by releasing the meter's mounting legs and pulling the meter toward you, so that you can connect field wiring and can check the connections of the meter to the transmitter.

Table 3 Installing EU Meter in STT 3000

Step	Action
1	Remove cover to transmitter housing.
2	Refer to: • Figure 3 if installing the meter to the Model 250 transmitter
3	Connect Yellow lead from EU meter to Signal **–** terminal on transmitter.
4	For the STT 250 transmitter, connect a lead from the positive (**+)** node of the receiver (typically a 250-ohm resistor) to the terminal screw inside the transmitter housing as shown in Figure 3.
5	Connect the Blue lead from the EU meter to the same terminal as specified in Step 4 above.
6	Connect a lead from the positive (**+)** node of the power supply to the Signal positive (**+)** terminal on the transmitter.
7	Consult the transmitter's instruction manual(s) to make other field wiring connections.
8	Rotate or orient the EU meter for proper viewing through the cover window, align feet on the meter with the holes in the spacer assembly, and press the meter into place.
9	Go to Section 3 to set up the EU meter.
10	Replace the transmitter housing cover.

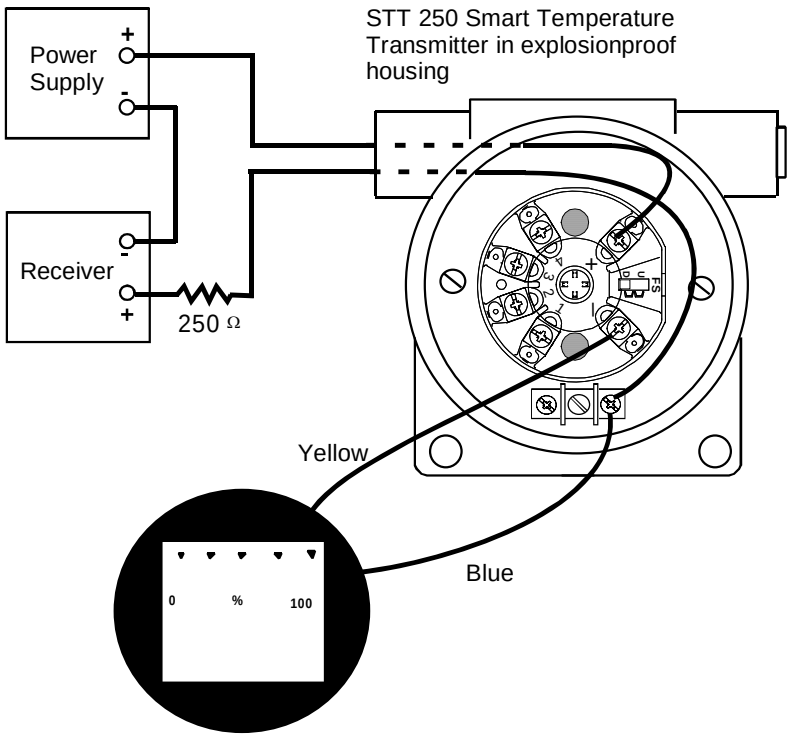


Figure 3 Wiring Connections for EU Meter to STT 250

3 – Setup and Operation

Overview

This section covers the procedures for setting up the EU meter display for use in your process application. To set up the meter for operation with a given transmitter, you must:

- set the 4 mA and 20mA values for the meter display, and
- select an appropriate engineering unit.

Guidelines for setting up the EU meter

Follow these guidelines when setting up the EU meter:

- Operating the Setup Switch, which is located at the bottom of the EU meter frame, provides access to all setup parameters and their values. (See figure on next page for location of the switch). This switch is a three-position momentary switch that can be operated to the left and to the right of center position. The switch is spring-loaded, so that it returns it to center position when it is released.
- Typically, when the meter is in the setup mode, the display is limited to only the active setup field (either a parameter name or a parameter value), as indicated under **Overview of Meter Displays and Operations**, following.
  Condensed procedures and references to tables of detailed setup procedures are given under the heading **General Procedure for Parameter Access**.
  A summary of the EU meter setup procedure is given in Figure 5.
- After making any adjustments to the meter, exit the setup mode to ensure that the new meter settings are saved (written to non-volatile memory).

Before you begin, be sure that the EU meter has been installed and wired properly.

ATTENTION

EU meter default values for low range and high range are 0 and 100.

The default engineering unit is percent (%).

Setup Parameters and Functions

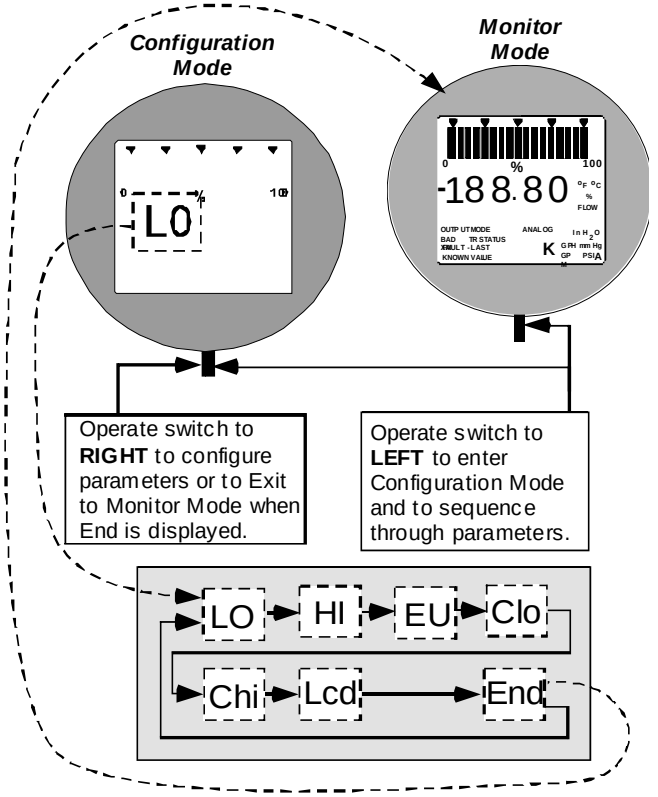
The following parameters are available and can be set up or changed on the EU meter display:

- **Low Range Value (LO)** – Lower Range Value (LRV); number that represents 4 mA (0%) output.
- **High Range Value (HI)** – Upper Range Value (URV); a number that represents 20 mA (100%) output.
- **Engineering Unit (EU)** – Selection of a value appropriate for your application.
- **Calibrate Low (Clo)** – Calibrate the meter to a 0% output indication.
- **Calibrate High (Chi)** – Calibrate the meter to a 100% output indication.
- **Lcd** – This function provides a means of checking all segments and fields of the display.
- **End** – This function Exits setup parameter selections.

Overview of Setup Displays and Operations

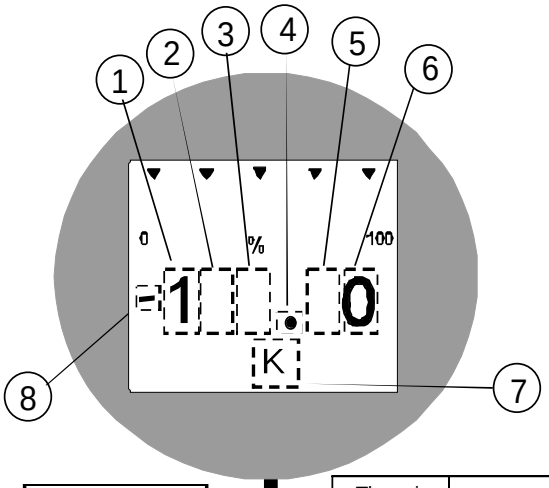
1. In the Monitor Mode, operate the Setup Switch to the Left to enter the configuration mode.
   Then, operate the switch repeatedly to the left until the desired parameter (e.g., HI) appears.

   When "**End**" appears in the display, you can operate the switch to the right to return to the monitor mode.



2. With the desired parameter selected:
   - operate the Setup Switch to the ***right*** repeatedly until the desired display position (1-8 in the picture at right) is selected.
   – operate the Setup Switch to the ***left*** repeatedly until the desired number appears, or until the desired symbol appears or disappears.

   The numbers or symbols that can be set for each display position appears in the table at the bottom of the picture at right.



First, operate setup switch to right to select display position 1-8.

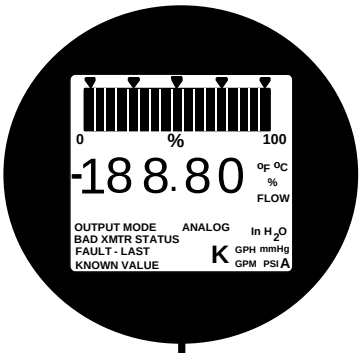
Then, in Display Position	Operate Setup switch to **LEFT** to select:
1	number (1) or blank
2	number (0-9) or blank
3	number (0-9) or blank
4	decimal point (.) or blank
5	number (0-9) or blank
6	number (0) or blank
7	symbol K (x1000) or blank
8	symbol minus (-) or blank

General Procedure for Parameter Access

Apply power to transmitter and wait for EU meter to run its self-diagnostic tests.

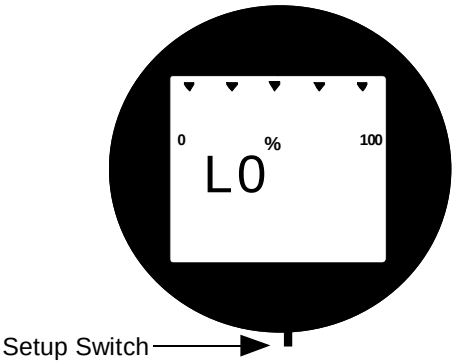
Example – EU meter self-test display.

Self-test Diagnostic



Operate setup switch on bottom side of the meter to the left once. The display reads LO (Lower Range Value).

Select Setup Parameter



To step through the parameters until the desired parameter is visible on the display, repeatedly operate the Setup Switch to the left. Go to the following tables for the setup procedure of that parameter:

LO – Lower Range Value (LRV; See Table 4.

HI – High Range Value (Upper Range Value, or URV; See Table 4.

EU – Engineering Unit, See Table 5.

Clo – Calibrate LO, See Table 6.

Chi – Calibrate HI, See Table 6.

See Figure 4 for a summary of the EU meter setup procedure.

Set Up Lower Range Value and Upper Range Value

Setting the Lower Range Value (LRV) and the Upper Range Value (URV) of the meter display defines the analog (4 mA to 20 mA) range of transmitter output values that are displayed. (The meter does not read the DE message of Honeywell smart transmitters).

The example procedure in the Table 4 sets the display range value for 180.00. Set low and high range values according to your application.

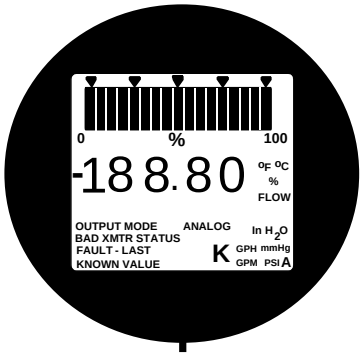
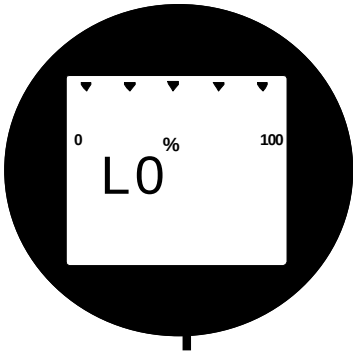
ATTENTION

Please note that the EU meter does not automatically compensate for changes made to setup parameters in either the transmitter or in the EU meter itself.

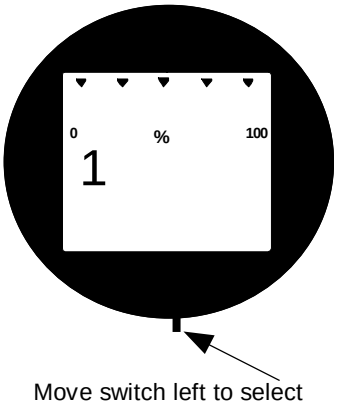
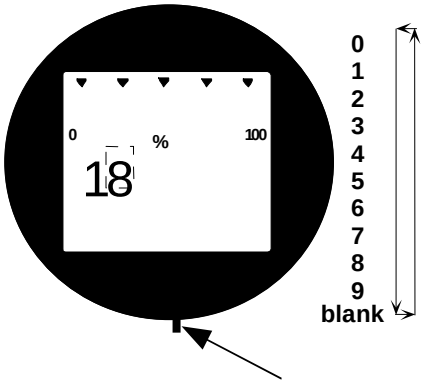
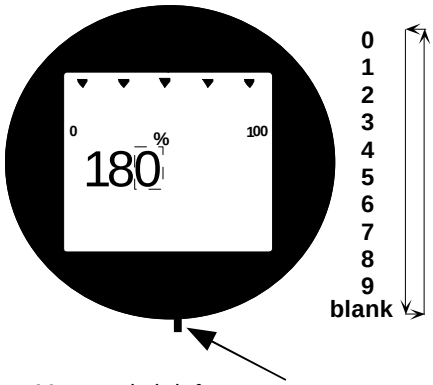
If the Engineering Units selection is changed after setting up range values (LRV and URV), it will be necessary to manually make corresponding changes to the range values.

For example, if the meter is set up for °C with lower range values of 0° and 100°, then changing the engineering unit selection to °F in either the EU meter or in the transmitter will require changing the LRV to 32° and the URV to 212° in the meter.

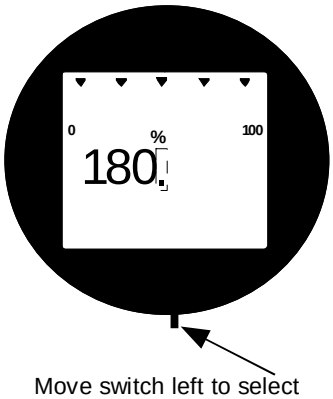
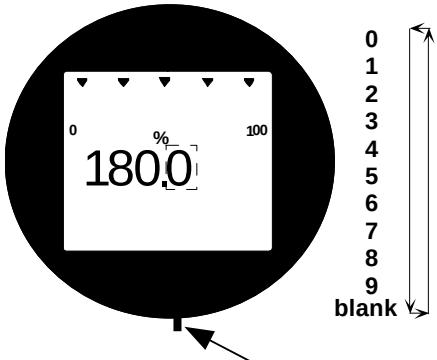
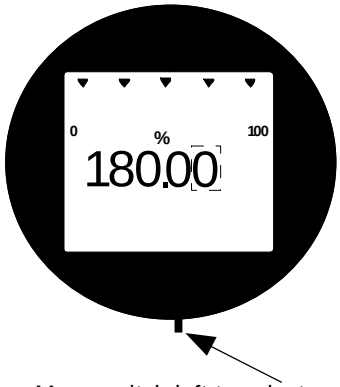
Table 4 Example - Setting LRV and URV

Step	Action	EU Meter	Next
1	Apply power to transmitter and wait for EU meter to run its self-diagnostic tests. Example – EU meter self-test display. (Note: During diagnostic testing, status indicators will appear at the lower-left of the display for about 2 seconds, and will then disappear.)	Self-test Diagnostic 	
2	Operate the setup switch on bottom side of the meter to the left one time. The meter displays “LO” (the LRV parameter).	Select LO 	To view the current low range value, operate the Setup Switch to the right one time. **ATTENTION** - If the range value on the display is correct, move the switch to the left and proceed to the next setting for the display. See Step 12 for setting High Range Value.

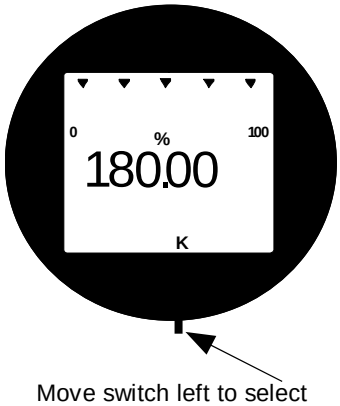
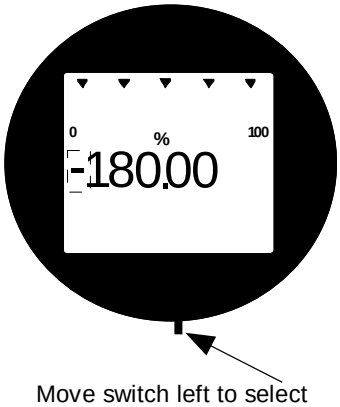
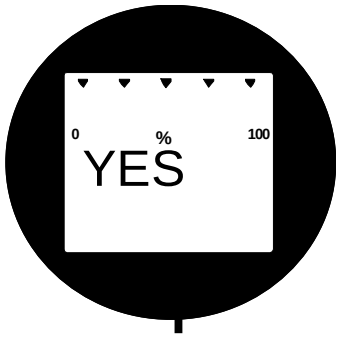
Procedure continued on next page ⇒

Step	Action	EU Meter	Next
3	To change or select the Lower Range Value, operate the setup switch to the right. A “1” is visible on the display. (The leading “1” on the digital readout.) Operating the switch to the left repeatedly will toggle the value between “1” or a blank.	Set Leading "1"  Move switch left to select either "**1**" or **blank**.	When the desired value is visible, operate the Setup Switch to the right to select the next digit.
4	A zero (“0”) appears to the right of the digit just configured. To set the numerical value of this digit, repeatedly operate the switch to the left.	Set First Digit  Move switch left to step through values.	When the desired value is visible, operate the switch to the right to select the next digit.
5	A zero (“0”) appears. To set the numerical value of this digit, repeatedly operate the switch to the left.	Set Second Digit  Move switch left to step through values.	When the desired value is visible, operate the switch to the right to select the next indicator.

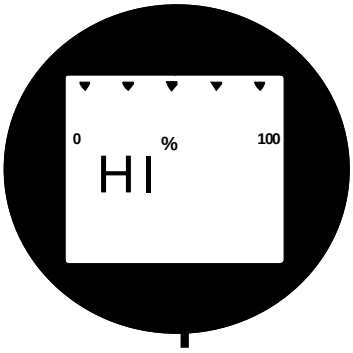
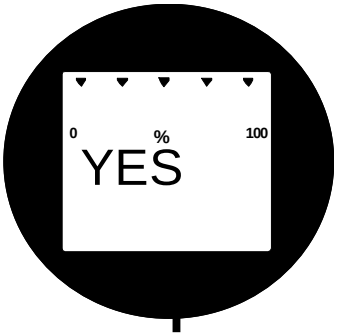
Procedure continued on next page ⇒

Step	Action	EU Meter	Next
6	A decimal point (“.”) appears. Operating the switch to the left toggles between “**.**” and blank.	Set Decimal Point  Move switch left to select either **.** (decimal point) or **blank**.	When the desired indication is visible, operate the switch to the right to select the next digit.
7	A zero (“0”) appears. To set the numerical value of this digit, repeatedly operate the switch to the left.	Set Third Digit  Move switch left to step through values.	When the desired value is visible, operate the switch to the right to select the next value.
8	A zero (“0”) appears. (The “0” is the trailing zero of the digital readout.) Operating the switch to the left repeatedly will toggle the value between “0” or a blank.	Set Trailing "0"  Move switch left to select either "**0**" or **blank**.	When the desired value is visible, operate the switch to the right to select the next indicator.

Procedure continued on next page ⇒

Step	Action	EU Meter	Next
9	A “K” appears at the bottom of the display. When the “K” is visible, it indicates that the numerical value on the display should be multiplied by 1000. (For example, in the display at right, the meter indicates a value of 180.00 x 1000, or 180,000.00.) Operating the switch to the left toggles between “K” and blank.	Set Multiplier  Move switch left to select either "**K**" or **blank**.	When the desired value is visible, move switch to the right to select the next indicator.
10	A minus sign (“-”) is visible. (Use the minus sign if you want to indicate negative values on the display.) Operating the switch to the left toggles between “-” and blank.	Set Sign  Move switch left to select either "**-**" or **blank**.	When the desired value is visible, move switch to the right to enter the value.
11	The word YES is visible for one second indicating that the range value has been set successfully.		The display returns to the setup parameter that was selected.

Procedure continued on next page ⇒

Step	Action	EU Meter	Next
12	Operate the switch to the left to indicate the next setup parameter. The meter displays “HI” (the URV parameter).	Select Hi 	To view the current high range value, operate the setup switch to the right one time. **ATTENTION** - If the range value on the display is correct, operate the switch to the left, and proceed to the next setting for the display.
13	Follow steps 3 through 11 to set the high range value for the display.		The word YES is visible for one second, indicating that the range value has been set successfully. The display returns to the setup parameter that was selected.
14	Operate the switch to the left to show the next setup parameter.		See Table 5 to set the Engineering Units value for the EU meter.

Selecting Engineering Units

Use the procedure in Table 8 to select the desired engineering unit for display.

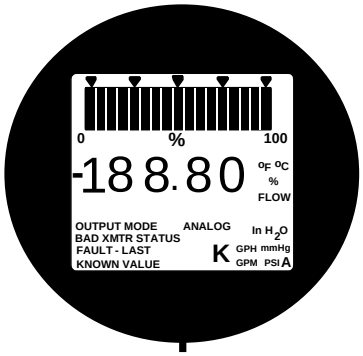
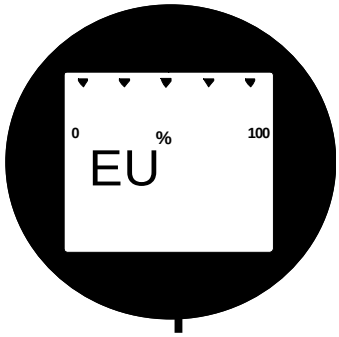
ATTENTION

Please note that the EU meter does not automatically compensate for changes made to setup parameters in either the transmitter or in the EU meter itself.

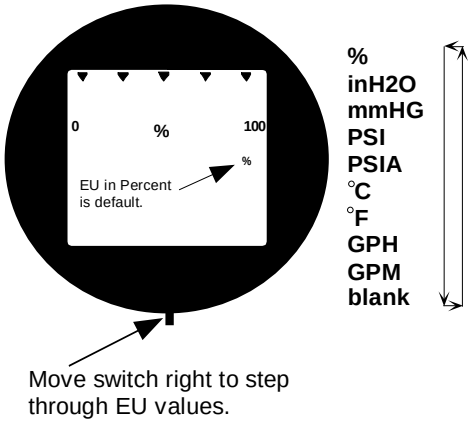
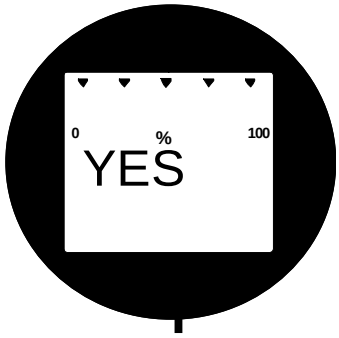
If the Engineering Units selection is changed after setting up range values (LRV and URV), it will be necessary to manually make corresponding changes to the range values.

For example, if the meter is set up for °C with lower range values of 0° and 100°, then changing the engineering unit selection to °F in *either* the EU meter *or* in the transmitter will require changing the LRV to 32° and the URV to 212° in the meter.

Table 5 Selecting Engineering Units

Step	Action	EU Meter	Next
1	Apply power to transmitter (if not powered) and wait for EU meter to run its self-diagnostic tests. Example – EU meter self-test display.	Self-test Diagnostic 	
2	Move switch to the left and release to step through setup parameters until the display reads EU.	Select EU 	To see the current engineering unit selection, move setup switch to the right once. **ATTENTION** - If the EU value on the display is correct, move the switch to the left and proceed to the next setting for the display.

Procedure continued on next page ⇒

Step	Action	EU Meter	Next
3	To sequence through the engineering units values, repeatedly operate the switch to the right.	Set Engineering Unit 	When the desired EU value is visible, operate the switch to the left. NOTE: Select “blank” when using engineering units that are not on the display. Use stick-on labels from Honeywell drawing number 30756918-001.
4	The word YES is visible for one second, indicating that the EU value has been set successfully.		The display returns to the setup parameter that was selected (EU, in this case).
5	Operate the switch to the left to select the next setup parameter.		

Calibration

The EU meter is calibrated at the factory before shipment, but you may want to calibrate the meter to the transmitter output after installation and setup. The display is calibrated at 0% and 100% PV values.

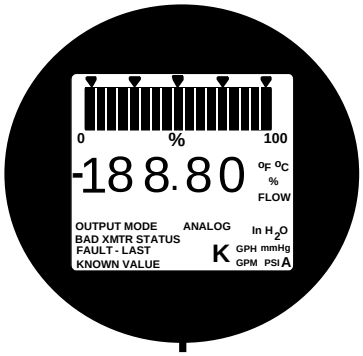
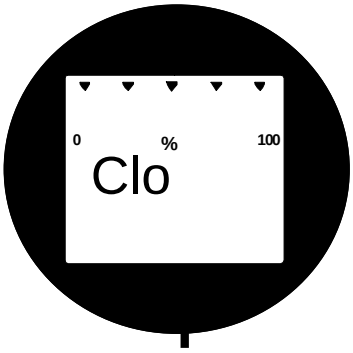
In-loop Calibration

You can calibrate the EU meter in the loop by putting the Honeywell Smartline transmitter into its OUTPUT mode so that it can be used as a current source. Be sure to put the loop into MANUAL mode first; then, set the transmitter's output to 0 % (4 mA) for the meter's "zero" calibration, (Clo), and 100 % (20 mA) for its span calibration, (Chi). When the meter is used with a Honeywell Smart line Transmitter, this is the preferred calibration method. Otherwise, you must obtain an accurate current source to calibrate the EU meter separately.

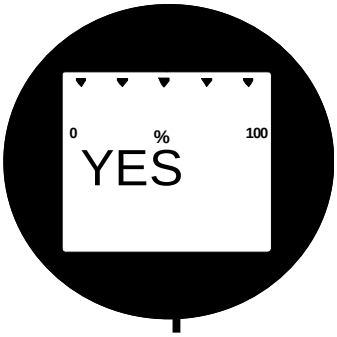
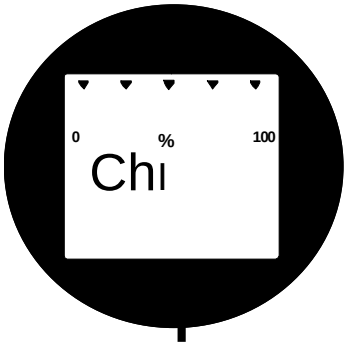
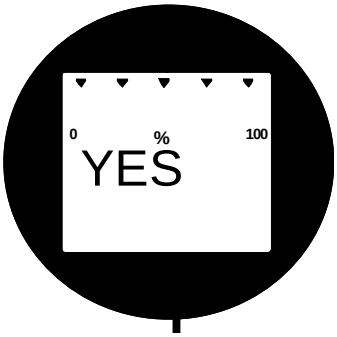
Calibrate LO and Calibrate HI

Follow the steps in Table 6 to calibrate the meter.

Table 6 Calibrate LO and Calibrate HI

Step	Action	EU Meter	Next
1	Apply power to transmitter (if not powered), and wait for EU meter to run its self-diagnostic tests. Example – EU meter self-test display.	Self-test Diagnostic 	
2	Operate the setup switch to the left repeatedly to step through setup parameters until the display reads "**Clo**" (Calibrate Low.)	Select Calibrate LO 	

Procedure continued on next page ⇒

Step	Action	EU Meter	Next
3	Provide an input to the transmitter so that the output is 4.0 mA (0% PV). Operate the switch to the right.		The word YES is visible for one second, indicating that the 0% calibration has been set successfully. NOTE: If the output value is not between 3.4 and 4.8 mA, the display will indicate “Err”. Adjust 0% output and repeat step 3.
4	Operate the switch to the left until the display reads “Chi” (Calibrate High).	Select Calibrate HI 	
5	Provide an input to the transmitter so that the output is 20 mA (100% PV). Move switch to the right.		The word YES is visible for one second, indicating that the 100% calibration has been set successfully. NOTE: If the output value is not between 18.6 and 21.6 mA, the display will indicate “Err”. Adjust 100% output and repeat step 5.

Setup Summary

Figure 4 provides a summary of the setup procedures for the EU meter.

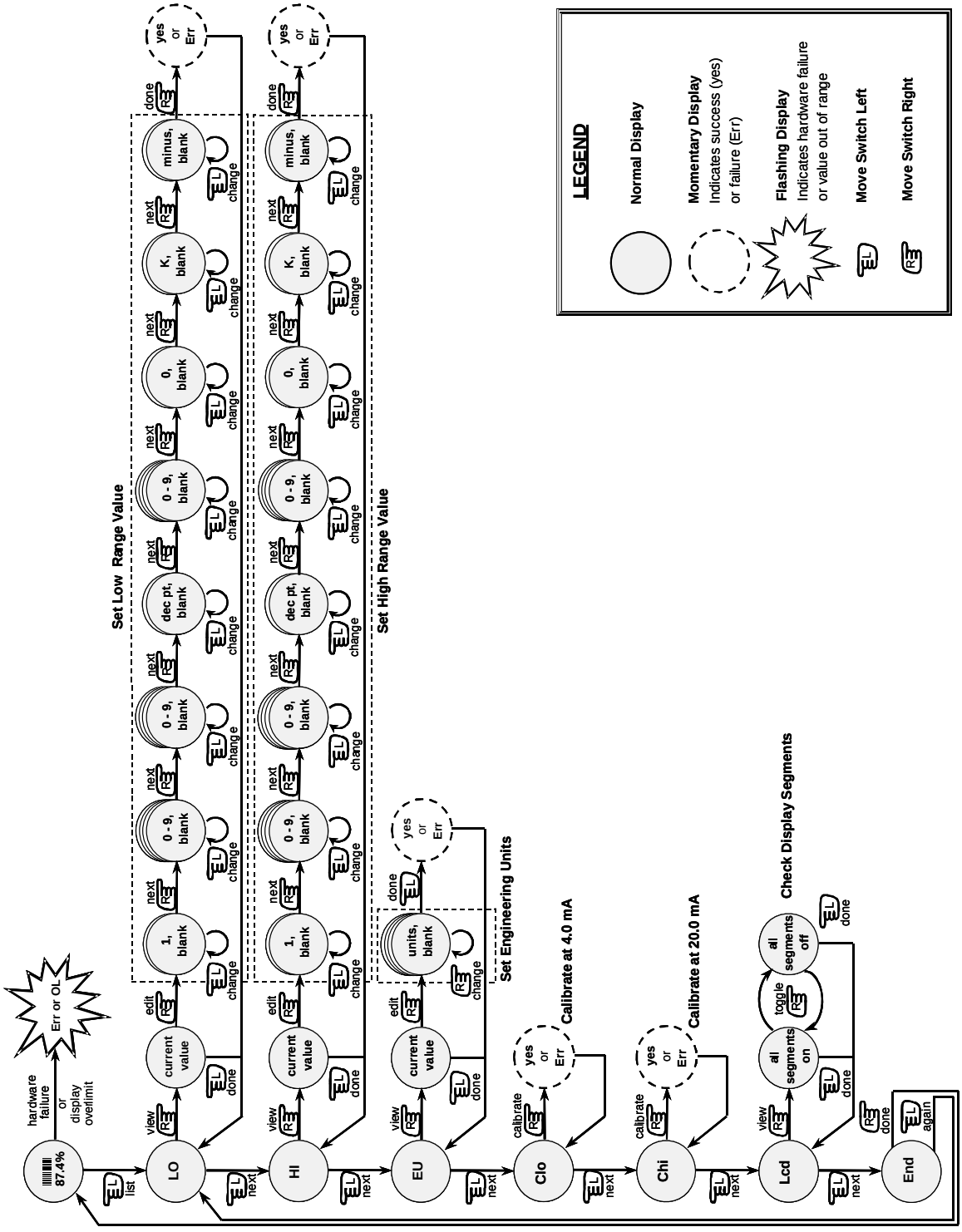


Figure 4 EU Meter Setup Summary

Operation

Once the EU meter has been set up (the LRV, URV and engineering units have been selected and calibration has been completed), you can begin monitoring meter indications for transmitter PV output. The self-test indications and some typical operating indications are outlined in this section for reference.

Self-test Diagnostic

Every time power is cycled to the transmitter and during normal operation, the EU meter runs a self-test to check several internal operations. When power is first applied to the transmitter, the meter shows all display segments for about 2 seconds so they can be visually checked for uniform appearance. If the self-test fails, the display will show "**Err**".

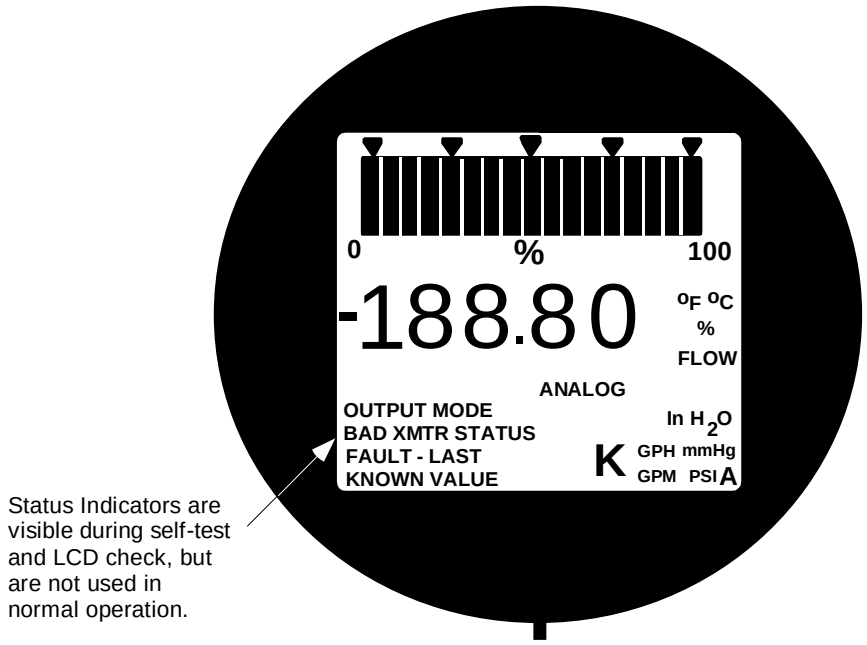


Figure 5 Self-test Diagnostic and LCD Check

LCD Check

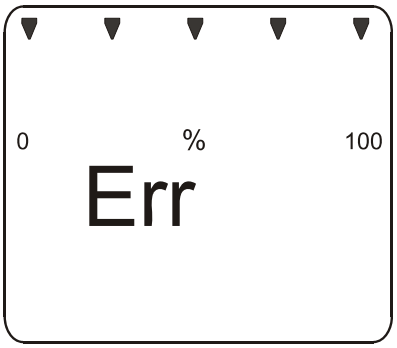
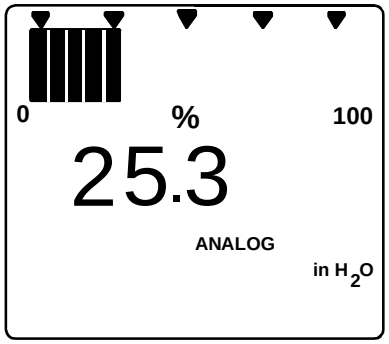
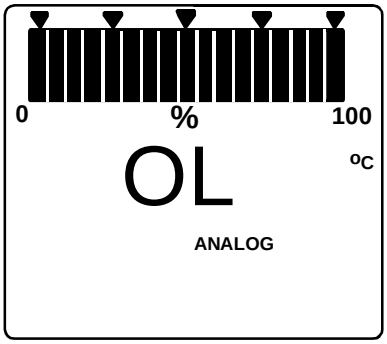
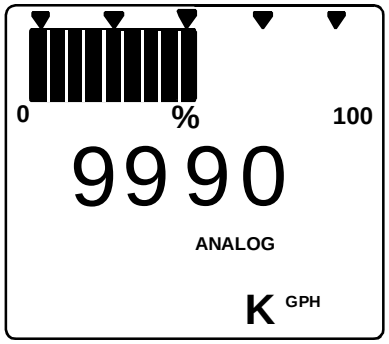
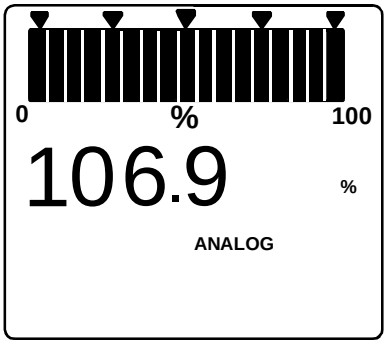
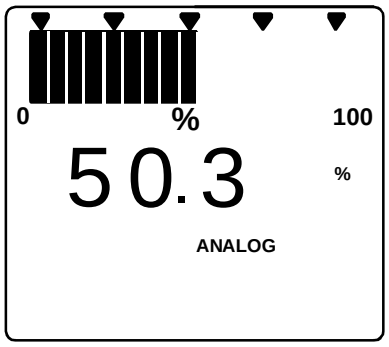
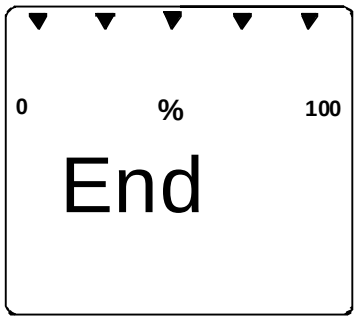
The LCD selection in the setup parameters also provides a check of all display segments and fields. To access the LCD selection:

1. Operate the setup switch left to step through the setup parameters until the display indicates **LCD**.
2. Operate the switch to the right to show all display segments.
3. Operate the switch to the right once more to blank out all display segments.
4. To exit the LCD check, operate the switch to the left until the display reads End.
5. Operate the switch to the right. The display returns to normal operating indications.

Normal Operating Indications

The EU meter continuously shows output values and selected engineering units during normal operation. Table 7 shows a number of typical meter indications. Note that other combinations of the display are possible.

Table 7 Summary of Typical EU meter Indications

Meter Indication	What It Means	Meter Indication	What It Means
	No power applied. Display is blank.		Meter has detected an internal hardware fault, or the meter current is out of range for either 0% or 100% calibration. See Table 6, in Calibration section.
	Normal display for meter. Digital readout indicates pressure of 25.3 inches of water.		Display flashes. Transmitter output has exceeded the meter's display range.
	Normal display for meter. Digital readout indicates 9,990,000 gallons per hour.		Display flashes. Meter current has exceeded 20.4 mA, or 102.4% of span.
	Normal display for meter. Digital readout indicates transmitter output of 50.3 %. % (Percent) is The meter's default engineering unit.		Meter is in setup mode. Operate the setup switch to the right to exit setup and return to normal operating display. See Setup Parameters on Page 9 for more information.

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